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Michael J. Berger  
Amster, Rothstein & Ebenstein  
90 Park Avenue  
New York, NY 10016

EXAMINER

HOLLOWAY III, EDWIN C

ART UNIT	PAPER NUMBER
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2635

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/726,136

Applicant(s)

ARMSTRONG ET AL.

Examiner

Edwin C. Holloway, III

Art Unit

2635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 33-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-17, 28, 29, 37 and 38 is/are allowed.
- 6) ☒ Claim(s) 1-10, 18-27, 30, 33-36 and 39-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**EXAMINER'S RESPONSE**

1. In response to applicant's amendment filed 9-29-05, all the amendments to the specification and claims have been entered. The examiner has considered the new presentation of claims and applicant's arguments in view of the disclosure and the present state of the prior art. And it is the examiner's opinion that the claims are unpatentable for the reasons set forth in this Office action:

***Claim Rejections - 35 USC § 102 & 103***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaplan (US 3689885).

Kaplan discloses an antenna assembly for an interrogator with three antennas (172, 174, 176) oriented orthogonally (X,Y,Z) and controlled by switch network (178, 180, 198, 200, 212, 214), to selectively couple one antenna to transmit and

another antenna to receive is six combination as in claim 19.

See fig. 5A, 5B, 6 and cols. 14-17.

5. Claim 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplan (US 3689885) as applied above in combination with Murdoch (US 5258766).

Cols. 1-2 of Kaplan refer to radio communication, but the antennas of Kaplan communicate by inductive coupling without reference to radio or RF.

Murdoch discloses an analogous art X,Y,Z antenna structure with reference to Kaplan in col. 1 and having inductive RF communication in col. 10.

If RFID in the preamble of claim 18 must be given weight, then it would have at least been obvious in view of Kaplan referring to RF in cols. 1-2 and Murdoch disclosing inductive RF communication using similar orthogonal antennas.

6. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reis (US 5686902) in combination with Godoroja (US 5485463).

Reis discloses an RFID system with plural interrogators positioned or arranged in cells to cover a region or zone. The interrogators are sequenced by computer 40 to provide cellular communication with tags in the region, but details of the sequencing are not specified. See figs. 7 and 8 and col. 22

line 7 - col. 23 line 34.

Godoroja discloses an analogous art two-way paging system where pagers acknowledge a page analogous to an RFID tag replying to an interrogator. The paging transmitters are arranged in cells controlled in time slots (A,B,C) in fig. 3 to from groups where adjacent cells have different time slots to allow simultaneous transmitting in a geographic area on a single frequency without co-channel interference.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Reis the cell arranged and activated in the groups of claim 30 as disclosed in Godoroja to allow simultaneous transmitting in a geographic area on a single frequency without co-channel interference.

7. Claim 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinrich (US 5606323) in combination with Fukae (US 6072421) and MacLellan (US 6456668).

Heinrich discloses a transponder with first antenna element 20, second antenna element 22, impedance modulator 24, receiver 16 and controller 14 operating as claimed except that receiving FSK spread spectrum and transmitting PSK format are not described. See fig. 2 and cols. 3-4. Fukae discloses an interrogator transmitting spread spectrum FSK to avoid

interference in col. 2 line 65 - col. 3 line 10. MacLellan discloses a transponder with PSK modulated backscatter modulation to fast response and inexpensive manufacture. See cols. 1-2, 4 and 7.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the transponder of Heinrich the reception of spread spectrum FSK interrogation signals of Fukae for reduced interference and the transmitting of PSK modulation as disclosed in MacLellan for fast response and inexpensive manufacture.

8. Claims 43 and 46-47 are rejected under 35 U.S.C. 102(e / b) as being anticipated by Mardinian (US 6646543 / WO9839725).

Regarding claims 43 and 46, Mardinian discloses a badge or transponder that transmits a response when a random number generated by the badge is within a range less than a variable (PMP) received from the interrogator. See fig. 2 and cols. 5-7. Becoming inactive is disclosed in col. 6 lines 34-40. The process is repeated until all badges are identified in col. 6 lines 45-55. Regarding claim 47, increasing to a final value is included in col. 7 lines 20-55.

9. Claims 7-10 and 39-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mardinian (US 6646543 / WO9839725) in combination with Snodgrass (5841770).

Regarding claims 39 and 41, Mardinian discloses a badge or transponder that transmits a response when a random number generated by the badge is within a range less than a variable (PMP) received from the interrogator. See fig. 2 and cols. 5-7. Mardinian does not disclose the details of the badge circuit.

Snodgrass discloses an analogous art RFID system with transponder 40 including antenna 168, receiver 170, random number generator 90, controller 42 in figs. 1 and 3 and cols. 5-10 for arbitration in an RFID system.

Regarding claims 39 and 41, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have in Mardinian the RFID transponder structure of Snodgrass in order to provide the optimized collision handling process of Mardinian with small size and low power structure of Snodgrass. Regarding claims 43 and 46-47, if RFID is not clear in Mardinian then calling the Mardinian system RFID would have been obvious in view of Snodgrass referring to analogous portable device identification with arbitration as RFID. Regarding claims 7-10, 40 and 44-45, transmitting when the random number is greater than the received variable and reducing to a final value would have been an obvious variation of the algorithm of Mardinian corresponding to inverted logic suggested by the increasing and decreasing in col. 7 of Mardinian and the

inverted arbitration number of Snodgrass. Regarding claims 42 and 48-49, transmitting when the random number is greater and less than the received variable and expanding a range to a final value would have been an obvious variation of the algorithm of Mardinian suggested by the range in col. 5 lines 35-46 of Mardinian. Further regarding claim 9-10, calculating ID based on the random number would have been obvious in view of Snodgrass disclosing this in col. 11 to provide a short ID value for fast response.

10. Claims 1-2, 5-6 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mardinian (US 6646543 / W09839725) in combination with Snodgrass (5841770) as applied above and further in view of MacLellan (US 6456668).

Regarding claims 1-2 and 5, half duplex interrogation with illumination (CW) in the combination applied above would have been obvious in view of MacLellan for backscatter modulation that allows inexpensive, short range bidirectional communication. Regarding claim 6, calculating ID based on the random number would have been obvious in view of Snodgrass disclosing this in col. 11 to provide a short ID value for fast response. Regarding claim 33, plural antennas would have been obvious in view of the plural antennas in fig. 1 of MacLellan to cover an area as in conventional cellular systems.



11. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mardinian (US 6646543 / WO9839725) in combination with Snodgrass (5841770) and MacLellan(US 6456668) as applied above and further in view of Shloss (US 5307349).

Using a random number to select a slot in TDMA would have been obvious in view of Shloss disclosing this in an analogous art reader-transponder system for arbitration and suggested by the reference to random time slots in cols. 1-2 of Mardinian. Although Mardinian refers to a disadvantage of long frames, combination of activation slots and message slots in Shloss reduces this problem.

12. Claim 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mardinian (US 6646543 / WO9839725) in combination with Snodgrass (5841770) and MacLellan(US 6456668) as applied above in view of Fogg (US 4479194). Fogg discloses an election ballot in fig. 7A with bar code bits 274A for identification in col. 11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included RFID transponders attached to ballots in the combination applied above because Fogg teaches barcode ID's and the RFID transponders are known substitutes for such barcodes, making ballots with RFID transponders an obvious substitution for advantages such as not requiring alignment of the reader.

Art Unit: 2635

***Allowable Subject Matter***

13. Claims 11-17, 28-29 and 37-38 allowed. The prior art does not fairly teach or suggest all the limitations of these claims for the reasons stated in applicant's arguments.

***Response to Arguments***

14. Applicant's arguments with respect to claims 1-10, 18-27, 30, 33-36 and 39-49 have been considered but are moot in view of the new ground(s) of rejection.

***CONTACT INFORMATION***

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact an Electronic Business Center (EBC) representatives at 703-305-3028 or toll free at 866-217-9197 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at [ebc@uspto.gov](mailto:ebc@uspto.gov). The Patent EBC is a complete customer service center that supports all Patent e-business products and service applications. Additional information is available on the Patent EBC Web site at <http://www.uspto.gov/ebc/index.html>.

Any inquiry of a general nature should be directed to the Technology Center 2600 receptionist at (571) 272-2600.

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Art Unit: 2635

transmissions must be sent to the Central FAX number, unless an exception applies. For example, if the examiner has rejected claims in a regular U.S. patent application, and the reply to the examiner's Office action is desired to be transmitted by facsimile rather than mailed, the reply must be sent to the Central FAX Number. Inquiries concerning only hours and location of the Customer Window may be directed to OIPE Customer Service at (703) 308-1202.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin C. Holloway, III whose telephone number is (571) 272-3058. The examiner can normally be reached on M-F (8:30-5:00). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (571) 272-3068.

EH  
1-23-06

  
EDWIN C. HOLLOWAY, III  
PRIMARY EXAMINER  
ART UNIT 2635